

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An adsorbent comprising a zeolite for a heat pump ~~characterized in that~~wherein the zeolite has a moisture adsorption of at least 28% by weight as measured at a temperature of 25⁰C under a partial pressure of water vapor of 5 Torr, and exhibits a moisture adsorption difference in the range of 15% to 25% by weight between a moisture adsorption as measured at a temperature of 25⁰C under a partial pressure of water vapor of 5 Torr and a moisture adsorption as measured at a temperature of 100⁰C under a partial pressure of water vapor of 15 Torr.

2. (Original) The adsorbent comprising a zeolite for a heat pump according to claim 1, wherein the moisture adsorption difference between a moisture adsorption as measured at a temperature of 25⁰C under a partial pressure of water vapor of 5 Torr and a moisture adsorption as measured at a temperature of 100⁰C under a partial pressure of water vapor of 15 Torr is in the range of 17% to 25% by weight.

3. (Original) The adsorbent comprising a zeolite for a heat pump according to claim 1, wherein the moisture adsorption difference between a moisture adsorption as measured at a temperature of 25⁰C under a partial pressure of water vapor of 5 Torr and a moisture adsorption as measured at a temperature of 100⁰C under a partial pressure of water vapor of 15 Torr is in the range of 19% to 25% by weight.

4. (Currently Amended) The adsorbent comprising a zeolite for a heat pump according to ~~any one of claims 1 to 3~~claim 1, wherein the zeolite has a FAU type zeolite structure having a SiO₂/Al₂O₃ mole ratio of at least 3.

~~any one of claims 1 to 4~~claim 1, wherein 30% to 75% of the ion-exchangeable cations are exchanged by proton, and the cation other than proton in the ion-exchanged zeolite comprises Na^+ alone or Na^+ plus at least one metal ion selected from univalent metal ions other than Na^+ , and divalent metal ions.

6. (Original) The adsorbent comprising a zeolite for a heat pump according to claim 5, wherein the zeolite has a lattice constant in the range of 24.530 to 24.625 angstroms.

7. (Currently Amended) A process for producing the adsorbent comprising a zeolite for a heat pump as claimed in ~~any one of claims 1 to 6~~claim 1, which comprises the steps of:

ion-exchanging an exchangeable cation in a zeolite, and then,

heat-treating the cation-exchanged zeolite in a stream of air or nitrogen.

8. (Currently Amended) A process for producing the adsorbent comprising a zeolite for a heat pump as claimed in ~~any one of claims 1 to 6~~claim 1, which comprises the steps of:

ion-exchanging an exchangeable cation in a zeolite, and then

heat-treating the cation-exchanged zeolite in the presence of steam.

9. (Currently Amended) A zeolite-water heat pump system comprising the adsorbent comprising a zeolite for a heat pump as claimed in ~~any one of claims 1 to 6~~claim 1.

10. (Original) A temperature controller provided with the zeolite-water heat pump system as claimed in claim 9.

11. (Original) A cooler provided with the zeolite-water heat pump system as claimed in claim 9.

12. (Original) A water-removing apparatus provided with the zeolite-water heat pump system as claimed in claim 9.

13. (Currently Amended) An open cycle moisture adsorption-desorption system

comprising the adsorbent comprising a zeolite for a heat pump as claimed in ~~any one of claims 1~~
~~to 6~~claim 1.

14. (Original) A dehumidifier provided with the open cycle water adsorption-desorption
system as claimed in claim 13.